

REMARKS

In response to the Final Office Action mailed August 30, 2004, the Applicant respectfully requests reconsideration.

By this amendment, Applicants amend claims 38, 39, 41, 52-54, and 59. As a result, claims 38-48 and 50-61 are pending for examination, of which claims 38, 52 and 59 are independent.

1. Claims 38-48, 50, 51, 58 and 69 Patentably Distinguish over Cocke in View of Bruckert

Claims 38-48, 50, 51 and 58 stand rejected under 35 U.S.C. §103 as purportedly being unpatentable over U.S. Patent No. 3,577,189 (Cocke) in view of U.S. Patent No. 4,742,451 (Bruckert). Applicants respectfully traverse this rejection.

1.1 Discussion of Bruckert and Cocke

The discussion of Bruckert from Applicant's previous response submitted June 4, 2004 is hereby incorporated by reference. As set forth in the previous response, and uncontested in the Office Action, Bruckert does not teach or suggest an instruction fetcher operative, *responsive to execution of a set branch instruction*, to fetch a new instruction from a location indicated by the set branch instruction. Rather, Bruckert describes prefetching instruction words from a "branch taken" instruction stream *in response to decoding a conditional branch instruction*.

The discussion of Cocke set forth in Applicant's previous response is hereby incorporated by reference. Cocke shows a first sequence of instructions including a branch instruction and an exit instruction, and shows a second sequence of instructions, the first instruction of which resides at an exit branch address (EBA). (Figs. 5 and 6). A branch instruction includes information indicative of a branch condition. (Col. 4, lines 49-67). *If the value of the condition is determined to be true*, then, at the next exit instruction, the sequence of instructions is altered by processing, as the next instruction, the target instruction located at the EBA. (Col. 4, lines 69-72; Col. 6, lines 28-39; Col. 12, lines 27-45). *If it is determined that the condition is false*, the branch is called unsuccessful and no alteration of the instruction sequence occurs. (Col. 4, lines 72-74).

1.2 Claim 38 Patentably Distinguishes Over Cocke in View of Bruckert

As set forth in the previous response, the combination of Cocke and Bruckert is improper because one of skill in the art would not have been motivated to combine the systems of Cocke and Bruckert.

Even if this combination were proper (which it is not), any resulting combination would not teach or suggest all of the limitations recited in claim 38. Specifically, no resulting combination would teach or suggest:

“A computer system comprising:

storage circuitry for holding a plurality of instructions at respective storage locations, the plurality of instructions including a first string of instructions including a set branch instruction indicating a target location within the storage circuitry at which a new instruction, not included in the first string, is stored, the new instruction to be executed only if a branch condition is satisfied, and the first string further including a subsequent instruction that is subsequent in the first string to the set branch instruction;

instruction fetch circuitry to fetch instructions from said storage circuitry, the instruction fetch circuitry including a first instruction fetcher to fetch instructions, including the subsequent instruction, from the first string, and including a second instruction fetcher; and

execution circuitry to execute fetched instructions, including executing the set branch instruction,

wherein the second instruction fetcher is operative, **responsive to execution of said set branch instruction and irrespective of whether the branch condition is satisfied**, to fetch the new instruction from the location indicated by the set branch instruction, in parallel to the first instruction fetcher fetching the subsequent instruction.”

Cocke does not teach or suggest an instruction fetcher operative, responsive to execution of a branch instruction *and irrespective of whether a branch condition is satisfied*, to fetch a new instruction from a location indicated by a set branch instruction. Rather, as set forth above, Cocke teaches that the new (i.e., target) instruction located at the EBA is fetched only if the condition set forth in the branch instruction is satisfied. Bruckert fails to remedy the deficiencies of Cocke in teaching this limitation of claim 38. As discussed above, rather than fetching a new instruction in response to *execution* of said set branch instruction, Bruckert indicates that instructions are fetched from a “branch taken” instruction stream in response to *decoding* a conditional branch instruction. Accordingly, even if Cocke and Bruckert were combined, no resulting combination would teach or suggest instruction fetch circuitry including a first instruction fetcher to fetch instructions and a second instruction fetcher operative, *responsive to execution of said branch instruction and irrespective of whether the branch instruction is*

satisfied, to fetch a new instruction from a location indicated by the said branch instruction, as recited in claim 38.

In view of the foregoing, Applicant respectfully requests that the rejection of claim 38 under §103 is purportedly being unpatentable over Cocke in view of Bruckert be withdrawn. Claims 39-48, 50-51, 58 and 60 depend from claim 38 and are patentable for at least the same reasons. Accordingly, Applicant requests that the rejections of these claims be withdrawn.

2. Claims 52-57 Patentably Distinguish Over Cocke in View of Bruckert

Claims 52-57 stand rejected under 35 U.S.C. §103 as purportedly being unpatentable over Cocke in view of Bruckert. Applicant respectfully traverses this rejection.

As set forth above, with respect to claim 38, the combination of Cocke and Bruckert is improper. Further, as should be clear from the above discussion, even if Cocke and Bruckert were combined, no resulting combination would teach or suggest all of the limitations recited in claim 52. Specifically, no resulting combination would teach or suggest a method of operating a computer having storage circuitry holding a first instruction string that includes a set branch instruction indicating a target location with the storage circuitry at which a new instruction, not included in the first string, is stored, the new instruction to be executed only if a branch condition is satisfied, the method comprising, *inter alia, in response to executing said set branch instruction and irrespective of whether the branch condition is satisfied*, fetching the new instruction from said storage circuitry in parallel to fetching a subsequent instruction from the first instruction string, as recited in claim 52.

In view of the foregoing, Applicant respectfully requests that the rejection of claim 52 under §103 as being unpatentable over Cocke in view of Bruckert be withdrawn. Claims 53-57 and 61 depend from claim 52 and are patentable for at least the same reasons. Accordingly, Applicant respectfully requests that the rejections of claims 53-57 be withdrawn.

3. Claim 59 Patentably Distinguishes over Cocke In View of Bruckert

Claim 59 stands rejected under 35 U.S.C. §103 as purportedly being unpatentable over Cocke in view of Bruckert. Applicant respectfully traverses this rejection.

As discussed above, the combination of Cocke and Bruckert is improper. Further, as should be clear from the discussion above with respect to claim 38, even if Cocke and Bruckert were combined, no resulting combination would teach or suggest all of the limitations of claim

59. Specifically, no resulting combination would teach or suggest a computer system comprising, *inter alia*, storage circuitry holding a first string of instructions including a set branch instruction indicating a target location within the storage circuitry at which a new instruction, not included in the first string, is stored, the new instruction to be executed only if a branch condition is satisfied, the first string further including a subsequent instruction, and means for fetching the subsequent instruction and the new instruction from the storage circuitry in parallel *in response to execution of the set branch instruction and irrespective of whether the branch condition is satisfied*, as recited in claim 59.

In view of the foregoing, Applicant respectfully request that the rejection of claim 59 under §103 as being unpatentable over Cocke in view of Bruckert be withdrawn.

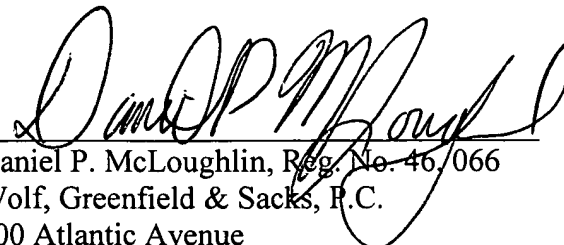
CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
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